

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 78-71

WASTEWATER RECLAMATION REQUIREMENTS FOR:

NORTH SAN MATEO COUNTY SANITATION DISTRICT, THE OLYMPIC CLUB, THE SAN FRANCISCO GOLF AND COUNTRY CLUB, LAKE MERCED GOLF AND COUNTRY CLUB, CYPRESS HILLS LAND COMPANY, INC., WOODLAWN MEMORIAL PARK, OLIVET MEMORIAL PARK, CYPRESS ABBEY CO., CYPRESS LAWN CEMETERY ASSOCIATION, AND HOLY CROSS CEMETERY

The California Regional Water Quality Control Board, San Francisco Bay Region, finds that:

1. The North San Mateo County Sanitation District, hereinafter referred to as the producer, submitted a project report for "Wastewater Treatment and Reclamation Project" dated February, 1977, an addendum to the project report dated June 1977 and a supplement to the project report dated September 1977.
2. The reclaimed wastewater is proposed to be used for landscape irrigation of golf courses, cemeteries, parks, schools and other miscellaneous non-residential sites. A potential market for an average daily usage of 4.5 million gallons per day (mgd) and a summertime usage of 7.6 mgd has been identified by the producer at the sites shown on attachment "A". The project will be implemented in three stages as shown on attachment "B".
3. The following users have entered into a contract with the producer for the use of reclaimed wastewater or have submitted a letter of intent indicating their willingness to do so:

<u>Property</u>	<u>User</u>	<u>Acreage</u>
Olympic Golf Course	The Olympic Club	265
San Francisco Golf Course	The San Francisco Golf and Country Club	150
Lake Merced Golf Course	Lake Merced Golf and Country Club	121
Cypress Hills Golf Course	Cypress Hills Land Company, Inc.	80
Woodlawn Memorial Park	Woodlawn Memorial Park	49
Olivet Memorial Park	Olivet Memorial Park	63
Greenlawn Memorial Park	Cypress Abbey Co.	57
Cypress Lawn Memorial Park	Cypress Lawn Cemetery Association	111
Holy Cross Cemetery	Holy Cross Cemetery	<u>133</u>
	Total	1029

The estimated average daily usage at these properties for stage I and II is 2.4 mgd for a total annual usage of 876 million gallons.

4. The producer will be responsible for operation and maintenance of the major transport facilities, storage reservoirs and associated appurtenances. Users will be responsible for the application of wastewater on their respective use areas and the operation and maintenance of those facilities with which this is accomplished.
5. Section 13523 of the California Water Code provides that a regional board, after consulting with and receiving the recommendations of the State Department of Public Health, and if it determines such action to be necessary to protect the public health, safety, or welfare, shall prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water. The use of reclaimed water for the purposes specified in Paragraph 2, could affect the public health, safety, or welfare, and requirements for those uses are therefore necessary in accordance with the Water Code.
6. The Board adopted a Water Quality Control Plan for San Francisco Bay Basin in April 1975. The water quality objectives for reclaimed wastewater, as set forth in the Basin Plan, specify those limits prescribed in Title 17, Section 8025 through 8050, California Administrative Code. These objectives have been superseded by Title 22, Sections 60301 - 60357, California Administrative Code (statewide reclamation criteria).
- "7. A Final Environmental Impact Report, dated September 1977, has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 2100 et. seq. The Water Reclamation Project, as approved by the North San Mateo County Sanitation District, may have some adverse effects on the environment. The construction activities may temporarily degrade air and water quality and result in disturbance of native wildlife in the immediate area. The project will commit future energy resources and presents an increased, although slight, risk to public health.
8. The limitations and provisions of this Order mitigate or prevent the water quality and public health related impacts of the project."
9. This Regional Board has notified the North San Mateo County Sanitation District (the producer), the users identified in finding 3 above, and interested agencies and persons of its intent to prescribe wastewater reclamation requirements for landscape irrigation of the properties identified in finding 3 above.
10. This Board at a public meeting heard and considered all comments pertaining to the adoption of these requirements.

IT IS HEREBY ORDERED that the producer and users, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Reclaimed Wastewater Quality Specifications

1. The reclaimed wastewater shall be at all times an adequately disinfected, oxidized wastewater and shall meet the following quality limits at all times:

5-day BOD	30.0 mg/l maximum
Dissolved Oxygen	1.0 mg/l, minimum
Dissolved Sulfide	0.1 mg/l, maximum

Coliform Organisms Median MPN shall not exceed 23 coliform organisms per 100 milliliter of sample at some point in the treatment process. The median value will be determined from the bacteriological results of the last seven analyses.

B. Reclaimed Wastewater Use Limitations

1. The treatment, distribution, or use of reclaimed wastewater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. Use of reclaimed wastewater shall be limited to irrigation of the areas specified in Finding 3 of this Order.
3. No reclaimed wastewater shall be applied to use areas during periods of rainfall or when soils are saturated.
4. No reclaimed wastewater shall be applied to use areas in such a manner or at such times as to expose golfers or other individuals to contact with spray droplets.
5. No reclaimed wastewater used for irrigation shall be allowed to escape the specified use area, either by surface flow or airborne spray, except for minor amounts incidental to best irrigation practices. Paved areas shall be free of ponded wastewater.
6. No reclaimed wastewater shall be applied closer than fifty (50) feet from picnic tables and other food and exposed drinking water outlets or on weekends and holidays.
7. Areas irrigated with reclaimed wastewater shall be clearly identified with posted notices to the public.
8. Employees of the users should be made aware of the potential health hazards involved with contact or ingestion of reclaimed wastewater. California State Health Department's Guidelines for worker protection at reclaimed wastewater use areas should be followed.
9. All equipment, including pumps, piping, storage reservoirs and valves, etc., which may at any time contain wastewater shall be adequately and clearly identified with warning signs, and the producer and users shall make all necessary provisions, in addition, to inform the public that the liquid contained therein is sewage and is unfit for human consumption.

10. The discharge of reclaimed wastewater to a use area shall cease immediately upon indication that the reclaimed wastewater does not comply with any quality specification.

C. Provisions

1. The Order includes items numbered 1 through 10 of the attached California Regional Water Quality Control Board's "Requirements of Design for Reclamation Facilities" dated October 1, 1975. The attached State Health Departments "Guidelines for Worker Protection at Water Reclamation Use Areas" should be followed.
2. Users shall submit a report satisfactory to the Regional Board Executive Officer describing and evaluating their current or proposed irrigation practices, application rates and procedures, irrigation equipment and fixtures and the system design and operation to minimize public contact with reclaimed water and to prevent possible cross connections to potable water supply system. Such cross connection control program shall be approved by the San Mateo County Office of Environmental Health. The report shall indicate the users ability to comply with use Limitation number 5 (run off limitation) and shall be submitted at least 60 days prior to use of reclaimed wastewater.
3. Users are responsible for submitting on-site observation reports to producer who will compile and file with the Regional Board technical reports on self-monitoring work performed according to detailed specifications as directed by the Executive Officer.
4. Producer shall submit 30 day's data to demonstrate consistent compliance with 23 MPN coliform organisms per 100 milliliter of effluent sample and reliability of the disinfection system prior to use of reclaimed wastewater.
5. The discharger and users shall permit the Regional Board or its authorized representative:
 - a. Entry upon premises in which an effluent source is located or in which any required records are kept.
 - b. Access to copy any records required to be kept under terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or method required by this Order.
 - d. Sampling of any discharge.

6. The producer and users shall maintain in good working order and operate as efficiently as possible any facility or control system installed by them to achieve compliance with the water reclamation requirements.
7. The producer and users shall file with the Regional Board a report on waste discharge at least 180 days before making any material change or proposed change in the character, location or volume of reuse.

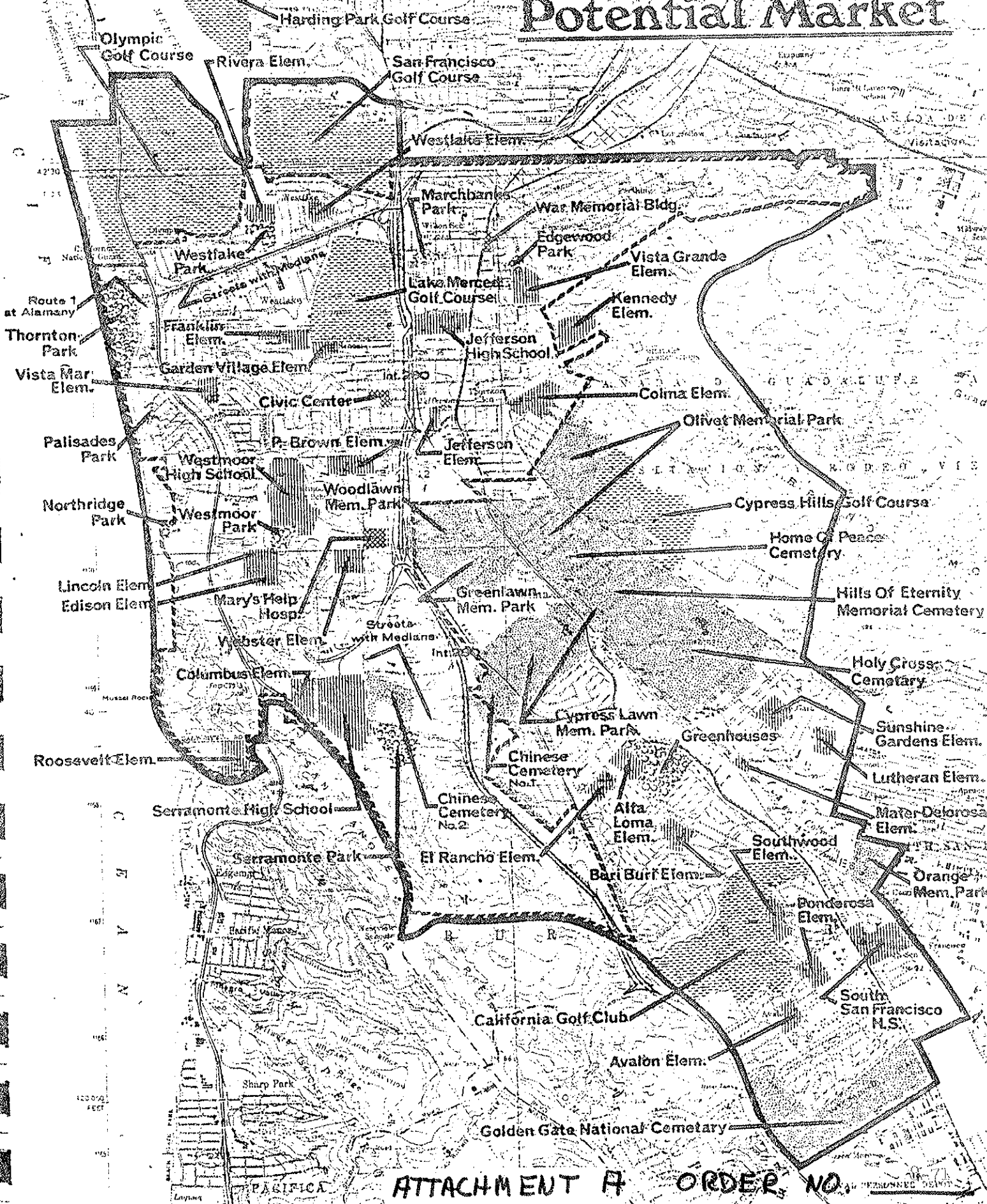
I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on August 15, 1978.

FRED H. DIERKER
Executive Officer

Attachments:

- A - Map
- B - Map
- Requirements of Design for Reclamation
Facilities dated 10/1/75
- Guidelines for Worker Protection at
Water Reclamation Use Areas
- Self-Monitoring Program

Potential Market



STUDY AREA

North San Mateo County Sanitation District

N.S.M.C.S.D.
TREATMENT
PLANT

STAGE II

STAGE III

LEGEND

- STAGE I
- - - STAGE II
- STAGE III
- STORAGE RESERVOIR

ATTACHMENT B

ORDER NO. 78-71

PROPOSED RECLAMATION PLAN FACILITIES

MONITORING SUMMARY FOR WASTEWATER RECLAMATION

DISCHARGER: _____

ORDER NO. _____

YEAR	FLOW	TOTAL COLIFORM		CHLORINE RESIDUAL	DO	BOD ₅	DISSOLVED SULFIDE	TURBIDITY
MONTH	TOTAL GALLONS RECLAIMED	MPN/100 mL	MPN/100 mL 7 DAY MEDIAN (23 MPN/100 mL)	MG/L DAILY MINIMUM	MG/L (1.0 MG/L min)	MG/L (30 MG/L max)	MG/L (0.1 MG/L max)	JTU (10 JTU max)
DAY								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
MIN								
MAX								
AVE								

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSES
NORTH SAN MATEO COUNTY SANITATION DISTRICT
RECLAMATION PROJECT

SAMPLING STATIONS	E-001	Use Areas							
TYPE OF SAMPLES	G ^{1/}								
Reclaimed Wastewater Volume (gallons/day) ^{2/}	D								
Coliforms (MPN)	D								
Chlorine Residual (mg/l)	D								
Dissolved Sulfide	D								
BOD (mg/l)	D								
Dissolved Oxygen	D								
Weekly Observations by users		O							

LEGEND

Type of Sample

G = grab sample
O = observation

Frequency of Sampling

H = once each hour
D = once each day
W = once each week

Station

E-001 = station(s) where a representative sample of treatment plant effluent being diverted for reclamation can be obtained and total diverted flow can be measured.

^{1/}Samples are required to be taken only at times when reclaimed wastewater is being diverted.

^{2/}Reclaimed wastewater volume shall be listed for the amounts used by each user and diverted to storage each day.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

OCTOBER 1, 1975

REQUIREMENTS OF DESIGN FOR RECLAMATION FACILITIES

1. Flexibility of Design. The design of process piping, equipment arrangement, and unit structures in the reclamation plant must allow for efficiency and convenience in operation and maintenance and provide flexibility of operation to permit the highest possible degree of treatment to be obtained under varying circumstances.
2. Emergency Storage or Disposal. (a) Where short-term retention or disposal provisions are used as a reliability feature, these shall consist of facilities reserved for the purpose of storing or disposing of untreated or partially treated wastewater for at least a 24-hour period. The facilities shall include all the necessary diversion devices, provisions for odor control, conduits, and pumping and pump-back equipment. All of the equipment other than the pump-back equipment shall be either independent of the normal power supply or provided with a standby power source.

(b) Where long-term storage or disposal provisions are used as a reliability feature, these shall consist of ponds, reservoirs, percolation areas, downstream sewers leading to other treatment or disposal facilities reserved for the purpose of emergency storage or disposal of untreated or partially treated wastewater. These facilities shall be of sufficient capacity to provide disposal or storage of wastewater for at least 20 days, and shall include all the necessary diversion works, provisions for odor and nuisance control, conduits, and pumping and pump-back equipment. All of the equipment other than the pump-back equipment shall be either independent of the normal power supply or provided with a standby power source.

(c) Diversion to a less demanding reuse is an acceptable alternative to emergency disposal of partially treated wastewater provided that the quality of the partially treated wastewater is suitable for the less demanding reuse.

(d) Subject to prior approval by the regulatory agency, diversion to a discharge point which requires lesser quality of wastewater is an acceptable alternative to emergency disposal of partially treated wastewater.

(e) Automatically actuated short-term retention or disposal provisions and automatically actuated long-term storage or disposal provisions shall include, in addition to provisions of (a), (b), (c), or (d) of this section, all the necessary sensors, instruments, valves and other devices to enable fully automatic diversion of untreated or partially treated wastewater to approved emergency storage or disposal in the event of failure of a treatment process, and a manual reset to prevent automatic restart until the failure is corrected.

- (2) Alarm, short-term retention or disposal provisions, and standby replacement equipment;
- (3) Alarm and long-term storage or disposal provisions;
- (4) Automatically actuated long-term storage or disposal provisions, or
- (5) Alarm and standby coagulation process.

7. Filtration. All filtration unit processes shall be provided with one of the following reliability features:

- (a) Alarm and multiple filter units capable of treating the entire flow with one unit not in operation.
- (b) Alarm, short-term retention or disposal provisions and standby replacement equipment.
- (c) Alarm and long-term storage or disposal provisions.
- (d) Automatically actuated long-term storage or disposal provisions.
- (e) Alarm and standby filtration unit process.

8. Disinfection.

- (a) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with the following features for uninterrupted chlorine feed:

- (1) Standby chlorine supply,
- (2) Manifold systems to connect chlorine cylinders
- (3) Chlorine scales, and
- (4) Automatic devices for switching to full chlorine cylinders.

Automatic residual control of chlorine dosage, automatic measuring and recording of chlorine residual, and hydraulic performance studies may also be required.

- (b) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with the following reliability features:
 - (1) Alarm and standby chlorinator;
 - (2) Alarm, short-term retention, or disposal provisions, and standby replacement equipment;
 - (3) Alarm and long-term storage or disposal provisions;

STATE OF CALIFORNIA DEPARTMENT OF HEALTH

GUIDELINES FOR WORKER PROTECTION
AT WATER RECLAMATION USE AREAS

1. Employees should be made aware of the potential health hazards involved with contact or ingestion of reclaimed water.
2. Employees should be subjected to periodic medical examinations for intestinal diseases and to adequate immunization shots.
3. Adequate first aid kits should be available on location, and all cuts and abrasions should be treated promptly to prevent infection. A doctor should be consulted where infection is likely.
4. Precautionary measures should be taken to minimize direct contact of employees with reclaimed water.
 - a. Employees should not be subjected to reclaimed water sprays.
 - b. For work involving more than a casual contact with reclaimed water, employees should be provided with protective clothing.
 - c. At crop irrigation sites, the crops and soil should be allowed to dry before harvesting by employees.
5. Provisions should be made for a supply of safe drinking water for employees. Where bottled water is used for drinking purposes, the water should be in contamination-proof containers and protected from contact with reclaimed water or dust.
 - a. The water should be of a source approved by the local health authority.
6. Toilet and washing facilities should be provided.
7. Precautions should be taken to avoid contamination of food taken to areas irrigated with reclaimed water, and food should not be taken to areas still wet with reclaimed water.
8. Adequate means of notification should be provided to inform the employees that reclaimed water is being used. Such notification should include the posting of conspicuous warning signs with proper wording of sufficient size to be clearly read.
 - a. In some locations, especially at crop irrigation use areas, it is advisable to have the signs in Spanish as well as English.
9. All reclaimed water valves, outlets, and/or sprinkler heads should be appropriately tagged to warn employees that the water is not safe for drinking or direct contact (direct contact is allowed at non-restricted recreational impoundments)

10. All piping, valves and outlets should be color-coded or otherwise marked to differentiate reclaimed water from domestic or other water.
 - a. Where feasible, differential piping materials should be used to facilitate water system identification.
11. All reclaimed water valves, outlets and sprinkler heads should be of a type that can only be operated by authorized personnel.
 - a. Where hose bibbs are present on domestic and reclaimed water lines, differential sizes should be established to preclude the interchange of hoses.

JC:gm
10/20/76

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

NORTH SAN MATEO COUNTY SANITATION DISTRICT, THE
OLYMPIC CLUB, THE SAN FRANCISCO GOLF AND COUNTRY
CLUB, LAKE MERCED GOLF AND COUNTRY CLUB, CYPRESS
HILLS LAND COMPANY, INC., WOODLAWN MEMORIAL PARK,
OLIVET MEMORIAL PARK, CYPRESS ABBEY CO., CYPRESS
LAWN CEMETERY ASSOCIATION, AND HOLY CROSS CEMETERY

ORDER NO. 78-71

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing of the waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. MONITORING PROGRAM

1. Schedule for sampling, and analyses of effluent shall be performed as shown on Table 1.
2. Each user of reclaimed wastewater shall inspect the use area weekly for the following;
 - a) Presence of odors as a result of spray application of wastewater, noting the presence or absence, character, source, and distance and direction of travel.
 - b) Evidence of any runoff or ponded water outside the property due to spray application of reclaimed wastewater.

C. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Regular monthly Self-Monitoring Reports shall be sent to the Regional Board by the fifteenth of the following month. The attached monitoring summary report form shall be used and submitted to both the Regional Board and County Health Department.
2. Users shall submit their observations resulting from field inspections to the producer who will compile and transmit to the Regional Board.

I, Fred H. Dierker, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 78-71.

2. Has been ordered by the Executive Officer on August 15, 1978 and becomes effective on the date reclamation commences.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

FRED H. DIERKER
Executive Officer

Attachments:

Table I
Monitoring Summary